The Chemical Corps' Expanding Roles

By Mr. Al Mauroni

The traditional Army chemical specialist strives to develop his or her unit capability to protect himself against an adversarial nation's use of nuclear, biological, and chemical (NBC) weapons on the battlefield. Up until about 2001, the majority of the Chemical Corps' energy—in terms of developing doctrine, organization, training, materiel, leader education, personnel, and facilities (DOTMLPF)—was focused on supporting traditional combat operations executed overseas. This practice has been ongoing since at least 1976, when the Chemical Corps took steps to become less of a technical organization and more of an operational organization. This measure was necessary to convince the Army that the Chemical Corps should not be disestablished, as the Chief of Staff of the Army, General Creighton Abrams, directed in 1972. Another nexus of change has recently come upon the Chemical Corps, but it is quiet and stealthy.

In 1995, Aum Shinrikyo's use of nerve agent in the Tokyo subway opened up a new mission area. Between 1998 and 2001, this event led to the creation of weapons of mass destruction–civil support teams (WMD-CSTs), formalizing civil support to state and local emergency responders responding to terrorist chemical, biological, radiological, and nuclear (CBRN) hazards. In the latter half of the 1990s, the mission of foreign consequence management—assisting coalition allies in responding to the effects of NBC weapons—was formalized and executed as a combatant command responsibility. In April 2002, the Office of the Secretary of Defense (OSD) directed the Chairman of the Joint Chiefs of Staff to develop standards, concepts of operation, and guidance to harden US military installations and Department of Defense (DOD)-owned or -leased facilities against the impact of terrorist CBRN incidents. This created the fourth new mission area—supporting antiterrorism programs executed on military installations.

There are two major schools of thought on how the Chemical Corps might approach this increase in mission scope. One points out that the common denominator in the four mission areas—passive defense, consequence management, antiterrorism, and civil support—is the general response to the threat of CBRN hazards. Therefore, the solution is to become technical experts in CBRN hazard analysis, where this general expertise can be applied to these distinct missions. The other road leads toward a transformation of the Chemical Corps to become more specialized, as opposed to generalized, in its execution of missions. I believe that future success lies in the ability to understand passive defense, consequence management, antiterrorism, and civil support as specialized fields and to apply specific CBRN defense capabilities for specific mission requirements.

Defining the Challenge

Following the Gulf War in 1991, DOD initiated a Defense Counterproliferation Initiative to create alternative solutions to challenging nonnuclear adversaries (armed with chemical and biological weapons) with US nuclear weapons. Prior to 1991, NBC defense was an aspect of deterring superpowers from using NBC weapons and protecting military forces in the event that deterrence failed. After 1993, the term *passive defense* was used to describe the role of NBC defense and became one of the four counterproliferation pillars (counterforce, active defense, passive defense, and consequence management). Current operations in Afghanistan and Iraq have not invalidated the need for passive-defense capabilities, but the absence of any NBC weapons employment has called into question the exact form of future capabilities. Defense Secretary Donald Rumsfeld has stressed that combating proliferation of WMD is a top defense priority, but passive defense remains only a small aspect of that priority. The OSD has also directed the Army to develop WMD elimination capabilities, while other agencies are developing WMD interdiction capabilities.

The term *consequence management*, under the counterproliferation strategy, addresses both the long-term remediation of contaminated terrain and military equipment to preincident conditions and support to coalition allies whose governments request official US military support to respond to the use of NBC weapons in their country. This is really foreign consequence management, as opposed to domestic consequence management. The Bush administration's National Strategy to Combat WMD splits consequence management out of the counterproliferation area to emphasize the need for domestic consequence

management (in addition to foreign consequence management). However, foreign consequence management requires unique coordination and execution responsibilities due to its overseas environment.

The former Federal Response Plan (replaced by the National Response Plan) had a special chapter that addressed the federal response to terrorist events, bringing the terms *crisis management* and *consequence management* into play for domestic terrorism. In 1998, the DOD Domestic Preparedness Program provided guidance to train more than 100 cities on responding to terrorist CBRN incidents before the Department of Justice took over (and subsequently, the Department of Homeland Security). Defense Secretary William Cohen initiated the development of WMD-CSTs (initially called *rapid-assistance and initial-detection [RAID] teams*) as part of an effort to build Reserve and National Guard capabilities that could join the federal support to assist state and local emergency responders. The Army's Technical Escort Unit and the Marine Corps' Chemical and Biological Incident Response Force also play roles in the federal support effort. What is now called *civil support* (or military assistance to civil authorities) requires unique equipment and concepts of operation very different from those supporting traditional military combat missions.

Following 11 September 2001, DOD took a hard look at increasing the ability of installations and facilities to protect their populations from and respond to terrorist CBRN incidents. The Installation Protection Program, now executed through the Joint Program Manager–Guardian, aims to add CBRN defense capabilities to the antiterrorism programs of military installations, starting with 15 US installations in Fiscal Year 2005. This is a more complex issue than merely emplacing a package of CBRN defense equipment on military installations. This capability must be maintained throughout the year, and the resources allocated for this mission are limited. The passive-defense concept, heavy in equipment and designed for relatively short periods of high threat, does not fit well in antiterrorism programs. This concept will force officials to make decisions on risk management to determine what mix of equipment, personnel, and concepts represents adequate protection for each individual facility and installation.

The increased desire for CBRN defense expertise outside the traditional area of military combat operations will mandate that the Chemical Corps be reexamined to ensure that today's capabilities match the expectations of DOD leadership. The DOD transformation agenda, in particular, calls for all armed forces to reevaluate their capabilities and balance their efforts against traditional, irregular, catastrophic, and disruptive threats. People within the Beltway are not asking for NBC or CBRN defense capabilities. What they are asking for are defense capabilities that support combating proliferation of WMD, homeland defense, civil support, and antiterrorism efforts at military installations and facilities.

Developing a New Framework

When the Joint Requirements Office (JRO) for CBRN Defense was stood up in 2003, the Vice Director of the Joint Chiefs of Staff chartered it to address all joint CBRN defense issues related to passive defense, consequence management, force protection, and homeland security. To do this, the JRO created a new definition for CBRN hazards:

> *Those toxic CBRN hazards that are released in the presence of US forces or civilians, not necessarily in quantities that could cause mass casualties. CBRN hazards include those created from a release other than an attack, toxic industrial chemicals (specifically toxic inhalation hazards), biological diseases with significant effects, and radioactive matter. Also included are any hazards resulting from the deliberate employment of NBC weapons during military operations.*

This definition identifies that not all CBRN incidents involve mass casualties, an important factor when addressing terrorist incidents, as opposed to national and state WMD programs. There is a difference between defending against the use of NBC weapons and responding to CBRN hazards, and the future force needs to take this into consideration. To build on this point, one can state that NBC defense and CBRN defense might have two different, but related definitions. To become more capability-based, one must not focus on the technical aspects of the threat but rather on the desired effect of CBRN defense in terms of a particular scenario. To support this point, the JRO has illustrated a diagram (see facing page) showing where CBRN defense would support counterproliferation, force protection, and homeland security efforts.

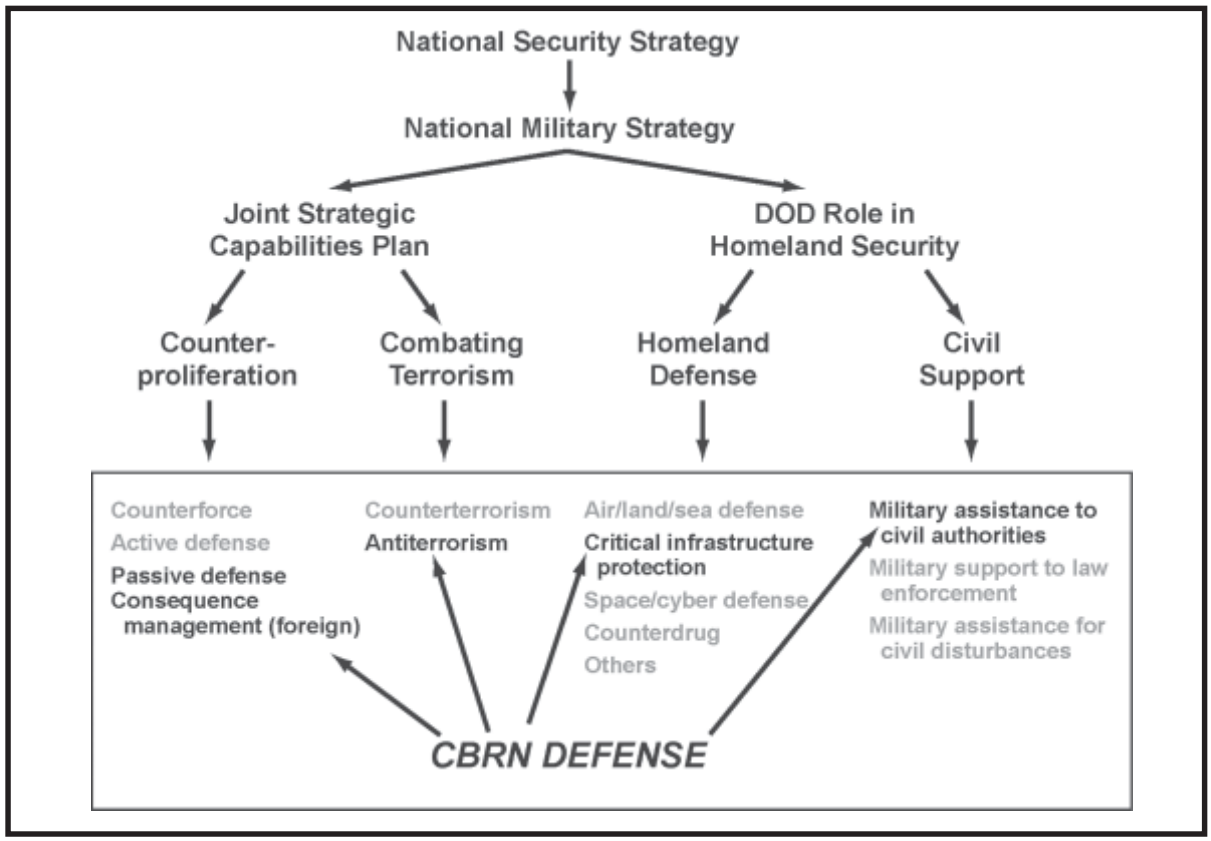
This structure illustrates how CBRN defense fits into the major defense capabilities being discussed. It shows how CBRN defense supports the execution of the commander's intent for a specific purpose. That is to say, we execute CBRN defense for military combat forces to

ensure that they can survive and sustain operations on the battlefield. We execute CBRN defense within antiterrorism programs to protect military and civilian personnel working and living on military installations. We execute CBRN defense in support of homeland defense by ensuring that critical infrastructure can sustain its capabilities through a terrorist CBRN incident. We execute CBRN defense as part of a federal response to state and local emergency responders that are protecting civilians from the effects of a terrorist CBRN incident.

Each case calls for a very specific set of tools, knowledge, and coordination within a greater construct. This is far different than what the Chemical Corps did for much of the 1980s and 1990s, when its efforts were largely restricted to military combat scenarios. We should not fall into the intellectual laziness of believing that "one size fits all." At the same time, the common threat of CBRN hazards calls for a common basis in subject matter expertise and technology but not necessarily the same equipment in all cases. In order for the Chemical Corps to meet future challenges, it must specialize in particular missions, as opposed to retaining a generalized capability that may not fit well with all four mission parameters.

Developing Capability-Based Concepts, Doctrine, Leaders, and Forces

Defense Secretary Rumsfeld approved the Joint Operations Concept in November 2003. Its purpose is to describe how military commanders will accomplish strategic objectives 10 to 20 years in the future. The document identifies four joint operating concepts—military combat operations (traditional warfighting against another nation), homeland security, strategic deterrence (actions taken to discourage aggression by potential adversaries), and stability operations (military operations during peacetime). There is a set of joint functional tools by which the commander executes his or her plans against these four operating concepts. These joint functional concepts include force application, protection, battlespace awareness, command and control, focused logistics, and net-centric operations. Everything that the military develops as a future capability is supposed to fall under one of these functional areas, with applications in major combat operations, strategic deterrence, stability operations, or homeland security. CBRN defense falls under the "protection" capability.



CBRN defense construct for the twenty-first century

The Joint Functional Capability Board has oversight on air and missile defense, maritime defense, WMD (combating incidences), force protection (combating terrorism), force health protection, critical infrastructure protection, information operations defense, and a collection of other minor areas. Each of the components under the protection functional capability is expected to illustrate a common set of characteristics that would be executed in any of the four joint operating concepts. This construct is explained in the Joint Requirements Oversight Council (JROC)-approved Protection Joint Functional Concept, dated 30 June 2004.

The JRO leadership recognized the opportunity to change the joint doctrine concept of contamination avoidance, protection, and restoration to a new CBRN defense concept (initiated by the Chemical School in 1999) called *sense, shape, shield, and sustain (the 4S concept)*. The 4S concept aligns with the Joint Functional Capability Board's activities of detect (sense), assess, warn (shape), defend (shield), and recover (sustain). Because the 4S concept loses the strict military combat connotation associated with the old terms, it is applicable (with some changes in the exact tactics, techniques, and procedures [TTP]) to antiterrorism, consequence management, and homeland defense. Identifying how CBRN defense fits within the Protection Joint Functional Concept and against the four joint operational concepts is the key to successfully transforming the Chemical Corps.

Army chemical units and personnel should also transform under this new concept. The infantry branch has been a proponent of specialization for some time, with its mechanized infantry, airborne and special operations infantry, light infantry, and "leg" infantry. Each section has particular units and doctrine designed for specific combat operations. The Chemical Corps could develop similar new specialties and specific organizations for unique CBRN defense applications. The current chemical company and battalion structure already meets the need for passive defense and foreign consequence management. Developing a specialty field to address CBRN defense in military installation antiterrorism programs might be possible through a special course of instruction, similar to how the Chemical Corps currently qualifies reconnaissance specialists. Homeland defense and civil support require dedicated military units and a joint task force structure that can coordinate with the US Northern Command and execute support to state and local authorities, such as those held by the 22d Operations Command.

We also need a dedicated laboratory specialist category and unit added to the force. If chemical specialists in the field are being called upon to evaluate hazardous industrial materials and to support WMD elimination operations, we need a dedicated, active-duty, deployable laboratory to do the work. The laboratory supporting the North Atlantic Treaty Organization (NATO) CBRN battalion is a successful example. And four deployable chemical-biological labs are to join the 22d Operations Command sometime in the future. These laboratories may require a high degree of technical expertise and sophisticated equipment, but their need is clearly felt. It is unrealistic to expect every chemical Soldier to be an analytical scientist.

We need to adjust and update joint doctrine to meet this new concept. The past focus on developing individual manuals for avoidance, protection, and restoration should shift to manuals addressing CBRN defense for combating proliferation, antiterrorism, and homeland defense. While we have a common 4S concept that applies to all mission areas, the particular TTP for each mission—as opposed to technical practices—needs to be laid out, debated, and finalized in line with the Joint Operations Concept.

Conclusion

The nature and form of current and future CBRN hazards have fundamentally changed from the previous threat of NBC weapons on the battlefield. To effectively respond to the future nature of the hazard, the Chemical Corps must transform itself to adapt to the nontraditional roles of combating terrorism and homeland security, in addition to combating proliferation. The successful method to effect this transformation is to specialize DOTMLPF to specific operational concepts. This is not the first time the Chemical Corps has had to transform to adapt to the military's ever-changing requirements, nor will it be the last. The ongoing defense transformation agenda offers a perfect opportunity for the Chemical Corps to demonstrate that it understands what the future demands and is prepared to address new joint operations concepts through specialized units and focused TTP.

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